

Growing WILD

Fall 2000

Utah's Project WILD Newsletter



Great Gallinaceous Birds!

Although they're here throughout the year, every spring, about early June or so, they seem to reappear! On tiny legs, heads held high, they dash skittishly across the road from beneath the shrubs in the front yard of my neighbor across the way to the shelter-rich, unkempt backyard of my neighbor next door. The critters to which I am referring are California quail, cute (in my opinion) little ground-dwelling birds with a plume-like feather bopping from the top of their head. Drivers on the road sometimes slow down, seeing the bright yellow "Quail Crossing" sign I've posted on a telephone pole nearby. More often than not, the miniature sprinters must stop abruptly, turn and retreat as vehicles come careening down the road at full speed.

Quail, along with wild turkeys, pheasants, grouse, prairie chickens, partridges and ptarmigans, are all members of the ground-dwelling, gallinaceous birds in the Order Galliformes. Gallinaceous birds are fowl-like in appearance and form. They possess short, stout, chicken-like bills, and sturdy, but relatively long and often spurred legs. Their wings are strong, short and rounded, their heads are small, their bodies are heavy, and their tails vary in length and elaboration depending on the species. Some bear crests, plumes or wattles, some have feathers patterned to conceal, and others are adorned with beautiful plumages rivaled by few in the realm of birds. Courtship is quite flamboyant in some, more subdued in others. Some are polygamous, some monogamous. Their clutches are large and their young are precocious—covered with down when hatched and able to run soon after leaving the egg. They forage by scratching the ground with their feet or digging in the litter with their bills, and roost mainly on the ground, but sometimes in trees.

Representatives of this group are found on every continent, but only two families, the Phasianidae and the Odontophoridae, have members of regular occurrence in the United States and Canada. They comprise the majority of upland game bird species. The flesh of most is edible but some are definitely more tasty than others. They occupy a variety of habitats from valleys to mountain peaks, and deserts to prairies, forests and tundra.

Before European settlement, native members of this family were found over most of North America. Each species had its preferred habitat. Colonization, however, brought changes in the native vegetation, that in turn, impacted survival of the native birds. One race of prairie chicken in the East, the heath hen, was driven to extinction as agriculture eliminated its native habitat. Numbers of many of the other species were significantly decreased as well. To fill the void, during the first half of the last century, wildlife managers attempted to introduce an array of upland game birds from foreign lands. Only a few of these introduction attempts were successful, the best examples being the ring-necked pheasant and the chukar. Today, more emphasis is being placed on restoring and preserving habitats to encourage survival of native species, although new introductions continue as well.

Utah has within its borders 12 species of gallinaceous upland game birds. Seven, Gambel's quail, the northern and Gunnison sage grouse, the blue, ruffed and sharp-tailed grouse and the wild turkey, are native species. Five, are exotics, which have been successfully introduced; two, the California quail and the white-tailed ptarmigan are native to other parts of the United States, and three, the ring-necked pheasant from China, the chukar from India and the Hungarian partridge from Europe, are foreigners.



California Quail

Read on to learn more about some of Utah's Great Gallinaceous Birds!

Gallinaceous Gab!

Blue Grouse: *Dendragapus obscurus*

Coniferous forest edges and open slopes along ridge tops of the mountains are usual blue grouse country. Many Utahns who have hiked in such areas, especially within the northern Wasatch Range, have most likely unexpectedly flushed one or a group of these relatively large, three and a half pound forest grouse. With a loud whir of flapping wings, when startled, they will often take flight downhill through the forest. At other times they will dart upwards, in a flash, into a nearby tree and perch motionless in an attempt to conceal their presence. Although their dark grayish-blue, ash mottled feathers render them barely distinguishable amid the shadows of the forest, younger birds will sometimes remain foolishly still, secure in their disguise, despite being discovered. It is this particular habit that has earned the blue grouse its common nickname of “fool hen.” Other names by which blue grouse are known include pine hen, dusky grouse and gray grouse.

Still distributed throughout most of their historic range across much of the west, blue grouse can be found within most mountainous areas of the state. Open stands of conifer or aspen with an understory of brush are their preferred habitat. Here, in the summer, they feed on a variety of seeds, leaves, berries of shrubs and insects. In the fall, they make an unusual reverse altitudinal migration, and work their way higher up the mountainsides to overwinter, instead of descending into the foothills or valleys as do other montane species. Here, their menu consists primarily of the needles, buds and pollen cones of the spruce and fir trees (especially Douglas fir) found at these higher elevations.

After the snow melts in spring, the blue grouse return downslope to partake in their annual breeding activities. Males begin to establish a territory, usually where there is a combination of fairly heavy cover for escape and areas of open vegetation for displaying. A clearing alongside a stream may be the place where a male chooses to woo his mate. Strutting with light-tipped, fan-shaped tail erect and drooping wings, the male inflates two large reddish or yellow air sacs on the sides of his up-stretched neck, spreading and exposing white rosettes of feathers that encircle each. Swollen comb-like fiery wattles, crest above his eyes as he bows low in view of his waiting mate. And a series of five to seven deep booming owl-like hoots emanate into the forest as he deflates his air sacs, expelling the air from within.

After mating, the hen is left to nest and raise her brood of seven to ten young solely on her own. For her nest, she constructs a shallow scrape on the ground in a sheltered spot. In the fall when the young birds are grown, they disperse, beginning their first upward trek to the dense conifers that will make up their winter home.

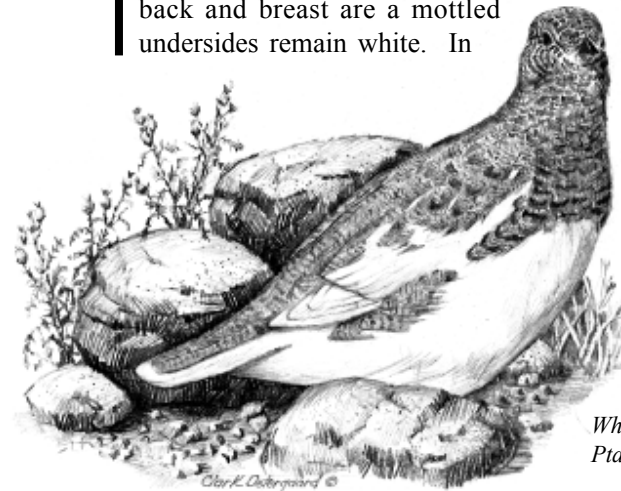
White-tailed Ptarmigan: *Lagopus leucurus*

It was while skiing on a high alpine slope one spring in Colorado that I first saw, or barely saw, a white-tailed ptarmigan. Descending the steep slope, only slightly still covered with snow, I saw something moving near an exposed cluster of boulders. Its color matched its surroundings so well, only the slight movement revealed it against the patchy snow. The bird made no attempt to flee, confident in its camouflaged attire, somehow knowing it was quite difficult to see. Here, on the “top of the world,” is where white-tailed ptarmigan live out their lives.

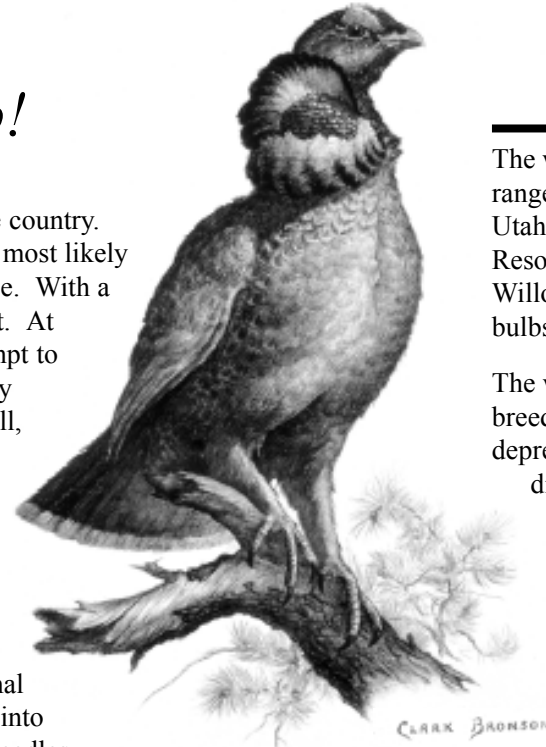
Masters of disguise, white-tailed ptarmigan, a type of grouse, molt their feathers twice a year, changing color patterns to blend in with the seasonally changing landscape of the alpine tundra. In spring, the feathers covering their head, back and breast are a mottled brownish-black color with pale yellow undertones. Their wings, tails and undersides remain white. In

winter they become as white as a snowdrift save for their shiny black bills, eyes and claws. Their feet, feathered for warmth, leave star-shaped tracks in the snow wherever they go.

The white tail feathers of the white-tailed ptarmigan serve to distinguish it from the two other species of ptarmigan in North America, the willow ptarmigan and the rock ptarmigan. It is also the smallest of the three species, measuring a foot or so in length and weighing between 12 and 15 ounces. Their name, ptarmigan, comes from a Gaelic word “tarmachan” which means mountaineer or white game. Ptarmigan, sometimes called “snow quail,” are the only birds in the world that turn white in winter.



White-tailed
Ptarmigan



Blue Grouse

The white-tailed ptarmigan is truly an alpine species, residing year round in the high mountains above timberline. It ranges from southern Alaska south to northern New Mexico, and along the west coast south to Washington State. In Utah, white-tailed ptarmigan are not known to be native. They were first introduced by the Utah Division of Wildlife Resources into the Uinta Mountains in 1976, where they now are generally found at elevations above 10,000 feet. Willow buds and twigs make up the predominant food for them during the winter. In summer, leaves, flowers and bulbs of a few forbs and some insects supplement their diet to a limited extent.

The white-tailed ptarmigan is the only species of ptarmigan that breeds in the continental United States. During the breeding season in May, monogamous pairs form after a brief courtship. By mid-June, nests, consisting of a shallow depression lined with grasses, lichens and feathers, are built. Nests are especially well camouflaged and are extremely difficult for people to find. An average of four to seven eggs are laid. As hens incubate the eggs, the males maintain a watchful vigil. Downy, olive to rusty brown-colored chicks hatch after 22 days. Although the chicks are aggressively protected by both parents, mortality can be as high as 50 percent. Predators include coyotes, foxes, weasels and a range of raptors.

As winter again approaches, flocks of about 20 ptarmigan begin banding together. As nights get colder and the snow deepens, they burrow beneath the snow and roost. Here, they stay quite comfy; their body temperature and insulating property of the snow raise the temperature inside their snowy shelters by as much as 60 degrees above that of the outside world!

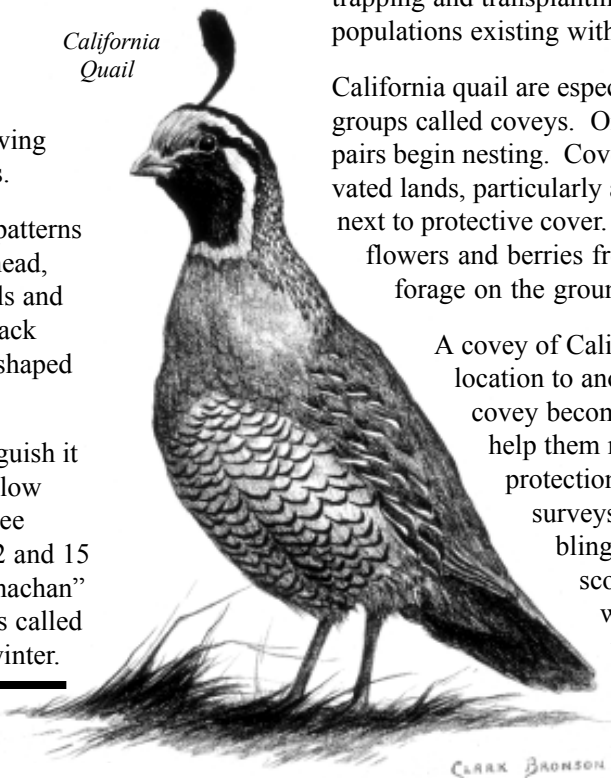
California Quail: *Callipepla californica*

California quail are highly social, delightfully vocal, pleasingly handsome and especially welcomed birds. The state bird of California, these medium-sized (9 ½ to 11 inches) quail are readily recognized by their unique and attractive plumage pattern and the jaunty, black, comma-shaped, forward drooping plume or topknot they sport atop their heads. In the males, a distinct white headband contrasts with a buffy forehead and a chocolate-brown patch on the head. Another white band on the neck outlines a black throat and a chestnut patch adorns the belly. Both sexes have clear bluish gray chests that grade downward to buff, beautiful, scale-like markings on their undersides and tawny-brown feathers on their wings and back, though females overall are browner and more subdued.

California quail are thought to have originally ranged only along the west coast from southern Oregon into Baja California. Today, as a result of introductions dating back to as early as 1862, they are found north to southern British Columbia and inland across the breadth of the Great Basin. They are also found outside North America, having been successfully introduced into Chile, Hawaii, New Zealand, Australia and Germany. In Utah, they were first introduced in 1869, when 14 pairs were released in the vicinity of Fort Douglas in Salt Lake County. Subsequent releases, trapping and transplanting, and dispersion have established them in many parts of the state, with some of the largest populations existing within city neighborhoods and parks where cover, food and water are abundant.

California quail are especially lively and social birds. During most of the year they forage, roost and loaf in flocks or groups called coveys. Only during the breeding season, which begins around late April, do coveys break apart and pairs begin nesting. Coveys reassemble in early fall. In Utah, California quail inhabit brushy areas adjacent to cultivated lands, particularly along streams. Good habitat includes broken terrain with a close intermingling of open areas next to protective cover. As far as diet, California quail are basically vegetarians feeding mainly on seeds, leaves, flowers and berries from grasses, shrubs and trees. Only two percent of their diet includes insects. They usually forage on the ground, scratching and pecking the ground for seeds, and jumping for flowers and buds.

A covey of California quail can be quite a talkative group. When foraging, dusting, or moving from one location to another they maintain auditory contact by continually uttering an *ut-ut-ut* clucking call. If the covey becomes scattered, they sound a loud, scolding *cu-CA-cow* assembly call (sounds like Chicago) to help them regroup. When danger is sensed, a rapid *pit-pit* alarm call is given. As an added measure of protection against surprise attacks, the covey usually relies on an adult male to serve as a sentinel who surveys the scene from a high vantage point. When extreme danger is sighted, a *kurr* call, resembling air being blown rapidly out between one's teeth, alerts the covey. What ensues is a sudden scoot of quail through the underbrush, or a burst of quail into a nearby tree, depending on whether the source of the threat is aerial or terrestrial! If you haven't had the good fortune of watching these enjoyable quail, look for them when you get a chance.



Chukars

Chukar: *Alectoris chukar*

The chukar, a species of partridge native to southern Asia and the Middle East, was introduced into a variety of regions in North America starting in 1893. Introductions into the sagebrush-grass region of the western United States were most successful however, as reflected in their current range—primarily the Great Basin covering Utah, Nevada, western Idaho and eastern Oregon and Washington. In the Great Basin, chukar truly found a home away from home, finding terrain, climate and food all to their liking.

The preferred habitat of the chukar is found in steep, rocky canyons harboring a mixture of brush, grasses and forbs. Ironically, chukars thrive on the over-grazed open ranges of the West where no agriculture can exist. The primary foods of the chukar are the leaves and seeds of annual and perennial grasses, primarily cheatgrass. Cheatgrass is itself a fellow exotic species now, unfortunately (though not for the chukar), wide-spread and abundant across the Great Basin. In the summer, to supplement their, diet they may also take seeds of various forbs associated with the sagebrush-grass and saltbrush communities of the region, and when available, eat wild fruits, waste grains and insects too.

The mountains and foothills spanning the Great Basin also provide suitable rock-covered slopes where chukars can find shade and roosting sites. Within their range, chukars are limited in where they can live pretty much only by water. In the late summer when streams dry up, large flocks often gather at a few remaining watering holes. To expand chukar habitat, biologists have installed guzzlers in drier areas. A guzzler is an underground cistern from which summer evaporation losses are minimal. Runoff from rain and snow collected over a large surface area is diverted into the cistern and chukars follow a ramp down to the water below.

Chukars are an especially vocal species with a wealth of calls. Its common name, chukar, is derived from its assembly or rally call. This call, at low intensity, resembles *chuk-chuk-chuk*. At higher intensities the call first sounds like *perchuk-perchuk-perchuk*, and then *chukar-chukar-chukar*. At highest intensity, it becomes *chukara-chukara-chukara*. This call is the most common call of the chukar and is given by both sexes. It is usually called from a rocky vantage point and carries for great distances.

A medium-sized partridge, chukars measure about 14 or 15 inches in length and weigh just over a pound. Males are slightly larger than females. Both have buffy-gray feathers on their backs and wings and light tan sides marked boldly with distinct slanting black and chestnut colored bars. A black band also runs backward from the top of the beak, through the eyes and down the sides of the neck, joining on the upper breast to form a conspicuous “V” that offsets a tan-colored throat. They also have bright red beaks, legs and feet.

Chukars were first introduced into Utah in 1936, but more intensive efforts to establish the species began only in 1951. Chukars are fast flyers and run very well. They are considered a magnificent game bird with superb sporting characteristics and they are ranked as the chief upland game bird of the Great Basin. A challenge for hunters is the fact that chukars inhabit some of the most remote and inhospitable country in the United States, and reaching a bag limit can take a good deal of time. Hunting downhill is recommended because chukars fly downhill in a curved path when flushed. Otherwise, the chukars will be at the bottom of the hill when you get to the top, and their call will probably sound more like a laugh.

Wild Turkey: *Meleagris gallopavo*

As American as Thanksgiving, wild turkeys are inseparable from their origin, being native exclusively to North America. Five subspecies of this highly variable, but unique species are recognized across their full range over the continent: the Eastern wild turkey (*M. g. silvestris*); the Florida wild turkey (*M. g. ocellata*); Merriam’s wild turkey (*M. g. merriami*); the Rio Grande wild turkey (*M. g. intermedia*); and Gould’s wild turkey (*M. g. mexicana*). A related species, the ocellated wild turkey (*Meleagris ocellata*), found in parts of southern Mexico, northern Guatemala and Belize, is also recognized. Several theories explain how the turkey got its name. Early naturalists may have confused it with a species of Old World guinea fowl found in Turkey, the name may describe one of the bird’s calls, which sounds like “*turk-turk-turk*,” or it may have sprung from the word “firkee,” an American Indian name for the bird.



Spaniards were probably the first white people to see wild turkeys when they reached eastern Mexico in the early 16th century, finding both wild turkeys and turkeys that had been domesticated by the Aztecs. Cortez was the first explorer to make specific written record of the Mexican turkey (Gould’s wild turkey) and may have been the first to bring the domesticated turkey to Spain around 1519. From Spain, the domesticated turkey spread rapidly across Europe, but did not make its way back to North America until nearly a century later along with settlers of the Atlantic seaboard. As a result, it turns out that the Mexican wild turkeys domesticated by the Aztecs became the source of all present day domesticated stock.

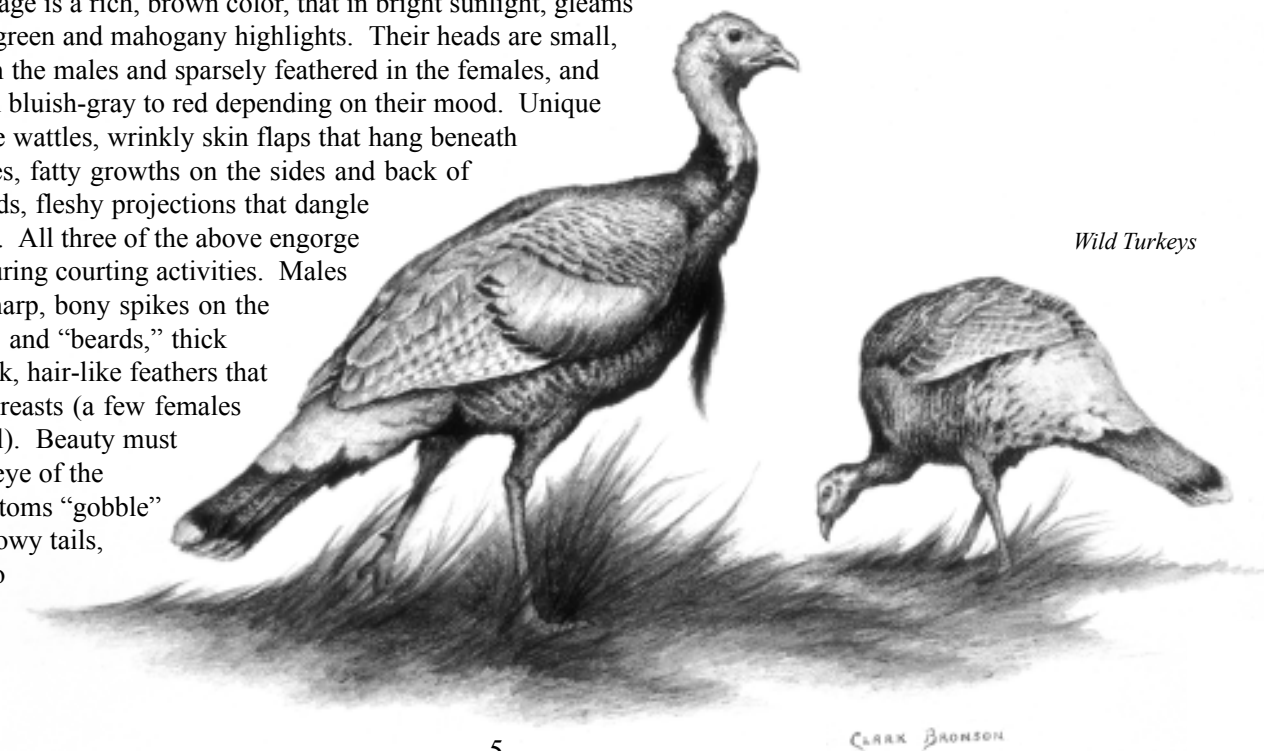
In North America, the wild turkey was widespread and abundant across the eastern half of the continent. American Indians apparently did not domesticate wild turkeys, but hunted them to an extent, using them as food and for feathers on arrows, ornaments and cloaks. Settlers who arrived at Jamestown and Plymouth Rock were familiar with the domesticated bird, but not its wild counterpart. Popularity of the wild version took off as it came to be an important food source for the early pioneers and considered by many to be the finest tasting of all the native game birds. Benjamin Franklin so admired the wild turkey that he wanted it for our national emblem. Comparing it to the bald eagle, he said, “The turkey is a much more respectable Bird, and withal a true original Native of America.”

Commercial hunting of wild turkeys peaked in the early 19th century, when turkeys sold from six to twenty-five cents each, less than domestic fowls. By the 1880s, however, the price had increased to about a dollar a bird. By this time, much of the wild turkey’s original habitat had been destroyed by the advance of civilization, with early unmanaged agriculture and lumbering causing significant impacts. By 1925, the wild turkey had been extirpated from 18 of the 39 states it had originally inhabited. Fortunately, newly formed conservation agencies and game departments stepped in to protect the wild turkey and help it regain its original range and increase in number nationwide.

Wild turkeys were not found in Utah during pioneer settlement. Historical and archaeological evidence, however, shows turkeys co-existed with the Anasazi and Fremont Indians 600 to 1,000 years ago, being depicted, for example, in rock art that prominently displays the turkey, complete with fanned tail and spurs on the legs. Two subspecies of wild turkeys now live in Utah, the Merriam’s wild turkey, first successfully introduced into Utah in 1952, and the Rio Grande wild turkey imported in 1984. Currently an estimated 6,000 to 7,000 turkeys range throughout the state. The Merriam’s wild turkey migrates seasonally in elevation and prefers areas with large stands of ponderosa pines interspersed with aspen, grass meadows and oak brush, while the Rio Grande wild turkey chooses to stay in river bottoms where cottonwood trees are found in association with oak brush and green leafy plants. Both are similar in appearance, so differences in habitat requirements are mainly used to distinguish between the two.

Wild turkeys are the largest of the gallinaceous birds with males (toms or gobblers) reaching a length of 48 inches and some weighing over 20 pounds, and females (hens) measuring about 36 inches with a weight of 10 or 11 pounds.

Overall, their plumage is a rich, brown color, that in bright sunlight, gleams with copper, blue, green and mahogany highlights. Their heads are small, pretty much bare in the males and sparsely feathered in the females, and range in color from bluish-gray to red depending on their mood. Unique to mature males are wattles, wrinkly skin flaps that hang beneath the throat, caruncles, fatty growths on the sides and back of the neck, and snoods, fleshy projections that dangle from above the bill. All three of the above engorge red with passion during courting activities. Males also wear spurs (sharp, bony spikes on the backs of their legs) and “beards,” thick tassels of long black, hair-like feathers that sprout from their breasts (a few females have beards as well). Beauty must certainly be in the eye of the beholder when the toms “gobble” wildly, fan their showy tails, and strut grandly to impress their soon-to-be mates.



Ring-Necked Pheasant: *Phasianus colchicus*

About four and a half years ago, in mid-May, a friend and I were walking along the edge of the San Juan River in Bluff. It was just around dusk. A cool breeze gently rustled the tall grasses rising alongside the path. We were listening for birds, but the setting sun seemed to have quieted everything down. Then, suddenly, out of the silence, came a loud, piercing “*skwagock*.” Wow! What was that? Neither of us had a clue. A minute or so later, again, another obnoxious “*skwagock*.” Honing in on the sound gave us the answer, when, out of the blue, a ring-necked pheasant burst upward and launched into the air.

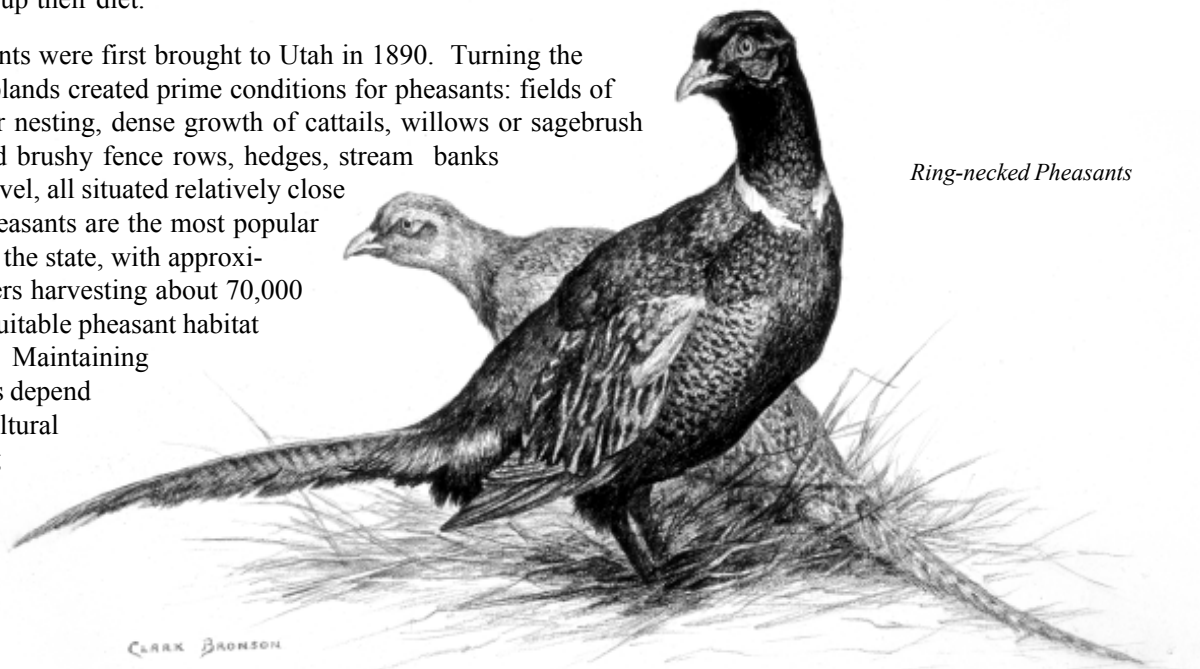
There was no mistaking this bird for any other. It was a brilliantly plumaged male or “cock” pheasant, his head and neck a bright, metallic blue-green casting an iridescent reflection of purple and bronze, demarcated by a conspicuous white collar around the neck and vivid patches of bare red skin decorating the sides of the face. His distinctive pointed, 22-inch long rufous tail, barred with black and olive, trailed behind. The cock's loud sqawking call we heard, functioned to announce his ownership of the territory he had established and to express his desires to attract a mate.

In pheasant society, with the coming of spring, flocks that have wintered together begin to break up. Males occupy territories and “crow” at dawn and dusk, from a conspicuous location, to ward off other males and invite hens to join their forming harems. Upon luring a hen into his domain, crowing ceases, and a fancy courtship display begins. To arouse the admiration of the demurely colored hen, the magnificent cock proudly struts and circles the hen, lowering and extending the wing nearest to her, the tip, arcing the ground in her path, shifting his feathers towards her as well, and spreading his glorious tail to expose all of his beautiful wares.

After mating, hens leave the company of the male to establish their nests. Nests, slight depressions scraped in the ground and lined with leaves or grasses, are commonly built in tall dense vegetation which affords adequate concealment. Over a period of about two weeks, hens lay a clutch of 10 or 11 eggs. They do not begin incubation until the last egg is laid, ensuring that hatching of the precocial chicks will occur at the same time.

Native to Asia, pheasants were first successfully introduced into North America in 1881 when Judge O. N. Denny, the American consul general at Shanghai, China at the time, liberated 30 Chinese pheasants into his homeland in the Willamette Valley of Oregon. Subsequent to that, another similar Asian species, first brought over to Europe where it became known as the English black-necked pheasant, was successfully introduced to the East Coast and elsewhere throughout North America. The ring-necked pheasant of today is basically a hybrid of these two freely crossing species. Established widely, their current range extends across most of the United States, except in the southeast. They took readily to irrigated agricultural lands across the nation, and became a product of the farm just as much as wheat and corn, taking advantage of waste grains, weed seeds, green vegetation and insects which make up their diet.

Ring-necked pheasants were first brought to Utah in 1890. Turning the desert into lush croplands created prime conditions for pheasants: fields of grasses or weeds for nesting, dense growth of cattails, willows or sagebrush for winter cover and brushy fence rows, hedges, stream banks and roadsides for travel, all situated relatively close together. Today, pheasants are the most popular upland game bird in the state, with approximately 39,000 hunters harvesting about 70,000 birds per year. All suitable pheasant habitat though is now filled. Maintaining populations will thus depend on preserving agricultural lands and employing farming practices that protect or enhance habitat for this greatly desired bird.



Ring-necked Pheasants

Resources

Gobble Up These Resources !

Call Project WILD at (801) 538-4719

Great Gallinaceous Bird Resources:

Wild Turkey Trunk - A brand new educational activity and resource materials trunk for check-out. Includes an excellent set of wild turkey activities, turkey call devices, turkey feather samples, rubber track and scat replicas, a set of full-color background information bulletins featuring each subspecies of wild turkey, a great video titled, "Return of the Wild Turkey," a CD-ROM, "Sounds of the Wild Turkey," posters and more.

Utah's Upland Game - An excellent publication providing species descriptions, habitat requirements, nesting behaviors, range maps and more for each of Utah's species of upland game.

Wild Turkey Poster - An exceptional poster featuring the Wild Turkey produced by the National Wild Turkey Federation.

Answer the Call - A great full-sized poster showing five major quail species in North America. Produced by Quail Unlimited.

Utah's Wild Turkey; Sage Grouse in Strawberry Valley; Grouse Country; Quail Leaflet - Four brochures featuring various species of gallinaceous birds.

Other Great Resources:

Bighorn Sheep - Our newest addition to our four-page fact sheet series known as the Wildlife Notebook Series.

Life Cycle of Utah Black Bears - Informative four-page color article focusing on the life history of Utah's black bears and safety in black bear country.

Water for Life: Keep the Wild Alive - National Wildlife Federation poster for Wildlife Week 2000, featuring eight species of wildlife who make their home in watery environments.

Wild Things - An especially colorful and educational poster depicting a desert ecosystem, created to celebrate National Wildlife Refuge Week, 1999.

Peregrine Falcon - A stunning poster of a peregrine falcon and its range map from International Migratory Bird Day, 2000. Artwork by famed bird artist, Roger Tory Peterson.

American Kestrel - Beautifully illustrated poster featuring artwork of wildlife artist, Steve Allred, from Utah's Desert Wildlife Festival, 2000.

Other New Materials Available For Check-out:

Bird Adaptations; Head/Bill and Feet Replicas - A set of 10 different true-to-life colored bird head/bill and feet replicas to enhance our popular kit, Competitive Interaction, which focuses on bird bill adaptations and feeding strategies. An excellent kit to supplement the Project WILD activity, "Adaptation Artistry."

Audubon's Animal Adventures - Eight separate videos: Whale Adventures; Bat Adventures; Manatee Adventures; Bear Adventures; Panther & Cougar Adventures; Eagle Adventures; Wolf Adventures; and Sea Turtle Adventures. Each 30 min. Grades 2-7.

Wolves - Video of IMAX film and an accompanying activity guide created by the National Wildlife Federation.

Sharp-tailed Grouse



Issue Investigation

Disappearing Sagebrush; Disappearing Sage Grouse

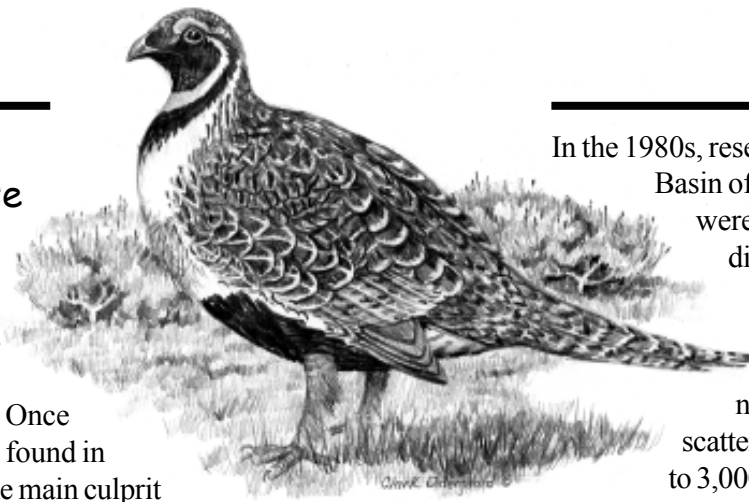
Despite a century of conservation concern and management efforts, populations of sage grouse (*Centrocercus urophasianus*), North America's largest and most spectacular species of grouse are declining significantly and still face problems that threaten their long-term survival. When first documented by the Lewis and Clark expedition in 1805, sage grouse, designated by the explorers, "cock of the plains," were widespread and abundant. Once occupying at least 16 western states and parts of three Canadian provinces, today they are found in only 12 states, and within those 12 states, many populations are just stable or declining. The main culprit has been loss of habitat due to cultivation, burning, spraying and overgrazing of the sagebrush dominated landscape associated with settlement of the West.

Originally found wherever sagebrush was plentiful, sage grouse are definitely birds of the sage, in more than just name. Found nowhere else in the world, they depend specifically on sagebrush (*Artemisia tridentata*) for all their needs—for nesting, for shelter and for the majority of their diet. But the West was settled to the detriment of the species. Ranches, farms, mines, towns, cities, roads and the like were centered in the sagebrush zones inhabited by this grouse. Springs, streams and wet meadows running through these regions were often severely damaged by livestock and human usage. Federal programs to eradicate the "worthless" sagebrush on public lands to improve the range for grazing abounded. And hunting pressures on the species mounted as it became an easily harvested game bird. By the early 1900s, sage grouse populations were in serious trouble over much of their range. In Utah, sage grouse range was once nearly contiguous, including portions of all 29 counties. Today, with a 50 percent decline in range from historical times, scattered populations remain in 26 counties. They are classified in Utah as a "Sensitive" species due to declining populations and limited range.

Not only large in size (males measure 25-30 inches in length and weigh up to seven pounds; females are about half this size), sage grouse are an especially magnificent grouse. Both sexes have narrow, pointed tails, are feathered to the base of the toes and wear a variegated pattern of grayish-brown, buff and black feathers on the upper parts of the body, paler feathers on their flanks and black ones on their underside. Females don buff-colored throats with black markings, while males wear a blackish-brown throat separated from a dark "V"-shaped pattern on the neck by a white margin. Males also have large olive-colored air sacs at the base of the neck hidden by a ruff of stiff white feathers adorning their breast.

Sage grouse are most famous for their annual springtime congregations onto ancestral strutting grounds, called "leks," where they assemble to reenact one of nature's most provocative and intriguing of courtship pageants. Leks are usually located in clearings in the sagebrush and range in size from a few hundred square feet to several acres. Upon arriving from up to several miles away, cocks establish a territory or arena from which to partake in their strutting dance. And then they dance at dusk, they dance at dawn, and on nights when the full moon shines, they dance all night long.

Strutting blends movement, color and sound. As the male begins his strutting performance, he arches his fully spread tail straight up with its retrices radiating out to form an arc of pointed rays. He holds his wings away from his sides, drooped down, barely grazing the ground. He puffs out the bright white feathers on his breast to where they encircle his head. And while coiling back his neck, he inflates his pair of air sacs to an enormous size. Then with a forward shuffle or two of his feet, he pumps his air pouches forward and up, deflating them suddenly with a loud popping "ba-loomp...ba-loomp" sound that can easily be heard for a distance of 200 to 300 yards. Hens traverse the lek scoping out the males, but mate primarily with the most dominant cock, called the "master" cock, occupying the centrally located arena. After mating, the hens retire to their sagebrush sheltered nests to lay their five to nine eggs.



In the 1980s, researchers studying sage grouse noticed unique features in the sage grouse found in the Gunnison Basin of Colorado and San Juan County in Utah. After studies examining populations of these grouse were completed, it was determined that these particular sage grouse comprised a separate and distinct species. As of July 2000, they were officially recognized by the American Ornithological Union as a new species, the Gunnison sage grouse (*Centrocercus minimus*). Sage grouse other than the Gunnison sage grouse are now called northern sage grouse. Although numbers of sage grouse in general have declined significantly during the past 100 years, the number of the Gunnison sage grouse has dropped to less than 4,000 total individuals within a few scattered populations. The largest population, located in Gunnison County, Colorado numbers 2,000 to 3,000 grouse, but the remaining populations number fewer than 300 individuals. Only one population (numbering fewer than 300 individuals) containing five active leks remains in San Juan County, Utah.

Conservationists have petitioned the U.S. Fish and Wildlife Service (USFWS) to have the Gunnison sage grouse listed as an Endangered Species. At this point, the USFWS considers the species a "Candidate for Listing." In the mean time, to protect and restore populations, the state wildlife agencies in both Utah and Colorado have been working with landowners (nearly all Gunnison sage grouse populations in Utah are found on private land) and conservation groups interested in preserving the species to create and implement conservation plans.

In light of sage grouse declines across the West, some controversy regarding hunting of sage grouse has arisen. In Utah, hunting of Gunnison sage grouse has not been allowed since 1984, although there is still hunting of some populations of northern sage grouse (those numbering greater than 500 breeding individuals). With sage grouse, and all upland game species, biologists rely on the existence of what is called a "harvestable surplus." Each breeding season a greater number of offspring are produced than can possibly survive the winter, so there is room for some of the population to be harvested. If the harvest remains lower than the harvestable surplus, populations will be able to sustain themselves.

Most biologists do not consider hunting pressure to be the cause of sage grouse declines, but instead, fragmentation, degradation and loss of habitat. Hunting, which is strictly regulated, has even been justified by biologists as a means by which to gather data on productivity including the percent of hens successfully nesting, the number of chicks per hen and the survival of adults from previous years. Other biologists suggest exercising caution in regards to hunting, particularly with poor production, uncertainties about winter mortality, small population sizes relative to requirements for minimum viable populations, impacts of habitat fragmentation, and the existence of few experimental studies examining adverse impacts of hunting on sage grouse.

Time will only tell whether or not success will be met in preserving the magnificent sage grouse in Utah and across the West.



“Dress a Turkey!”

Featuring Wild Turkeys

Objective: Students will learn about some of the unique and interesting features of wild turkeys.

Method: Students create props which they then use to “dress” as wild turkeys themselves.

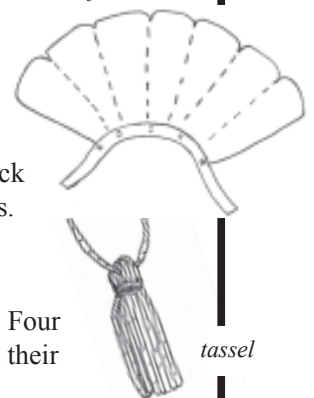
Background: Larger, but slimmer than the domesticated version, wild turkeys sport some unique features that set them apart. Males, or toms as they are called, definitely have some unusual and somewhat comical characteristics. They have no feathers on their heads, their faces are brightly colored with red and blue, a big long piece of skin called a snood grows out of their head and hangs down over their beak, and loose folds of skin, or wattles, that look like bubbles, dangle from their neck. A long tuft of stringy black feathers called a “beard” also grows out of their breast, and sharp pointed spurs grow from their legs. Wild turkeys are talkative birds too, and have about 28 different calls. When they show off for hens, they fan their fancy tail and “gobble-gobble-gobble” as they strut their stuff.

Materials: Pictures of wild turkeys, black yarn (about 12 feet per student), red balloons (3-4 per student), blue-colored material cut to the size of a bandana (1 per student), bendable plastic straws (2 per student), construction paper (variety of rich earthy/camouflage tones), film canisters (1 per student), single-holed stir straws (1 per student), cardboard (1 approx. 20” x 16” piece per student), cardboard strips (5” x length of students’ waists), colored markers, duct tape, masking tape, sissors, string, ice-pick.

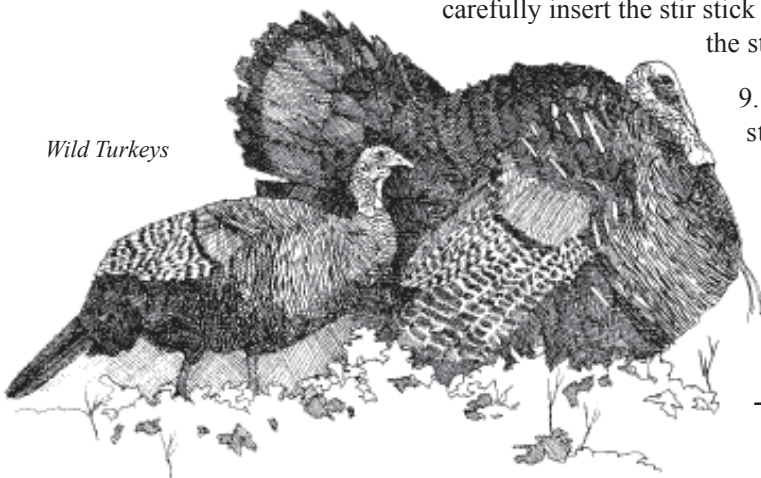
Procedure:

1. Share pictures of wild turkeys with the students.
2. Wild turkeys are covered with coppery, bronze and black iridescent feathers. Have students draw and cut out feather-like pieces of construction paper they they will tape to their clothes. (If students have camouflage clothing they can wear that instead.)
3. Have students create a fan-like tail out of cardboard. Have them fold their pattern upward on the dotted lines to make a curve. Fold thinner cardboard strips in half lengthwise to make them stiffer and create a belt to which the tail can be attached with staples. Connect a couple of strips if a longer length is needed. Attach the tails to the cardboard belts with duct tape. (A string can be attached from the middle of the tail to the back of the turkey/student for added support.)
4. Give each student 4 red balloons. Have them slightly inflate three of them to attach to their neck with tape to make their wattles and leave one uninflated to attach above their nose for their snoods.
5. Blue turkey heads are made by wearing the blue material squares like a scarf on the head.
6. Students can make their “beard” out of the black yarn. Have them cut six 2-foot long pieces. Four are folded in half over one piece laying perpendicular to the others (used to hang the beard around their neck). The last piece is used to tie the strands together creating a tassel.
7. Have students make spurs by folding down the bendable straws and taping the long end to the back of their lower leg with the short part on top sticking backwards. Use duct tape since turkeys have gray legs.
8. Make turkey calls by poking a hole in the bottem center of the film canisters with the ice-pick. Have students carefully insert the stir stick into the hole about half way in. A kissing-like suction on the stir stick mimics a call of a wild turkey.

tail feathers



Wild Turkeys



9. Help dress the turkeys and have them strut their turkey stuff.

Discussion/Evaluation:

Have students review the unique parts worn by wild turkeys. Have them postulate what purposes these parts may serve.

What's New with Project WILD!

New and Improved Project WILD K-12 and Aquatic Education Curriculum Guides

Project WILD is proud to introduce its fully revised K-12 and Aquatic Education Curriculum guides this fall. The guides have been enhanced around a new learning framework that develops the concepts of ecological knowledge, social and political knowledge and the sustaining of fish and wildlife resources.

The guides contain more than twenty new activities that address issues deemed important to wildlife agency directors, such as habitat loss, biodiversity and human dimensions in wildlife management. Updated data, charts, photographs and background sections provide educators with current information about wildlife habitat and populations.

Consistent with Project WILD's evaluation findings, the activities are grouped in thematic units, or sequences, to encourage educators to conduct a series of Project WILD activities to fully develop student understanding of the issues. Urban activities and adaptations, early-childhood extensions to activities and in-depth high school level content improve the usefulness of the curriculum for educators and learners of all ages. Activities are matched to the national curriculum standards for science, math, social studies, language and expressive arts and environmental education at the appropriate grade levels. A searchable database on the world-wide web or in CD-ROM format (soon to be available) will allow educators to match activities with core standards, grade and skill levels, conceptual framework concepts and assessment types.

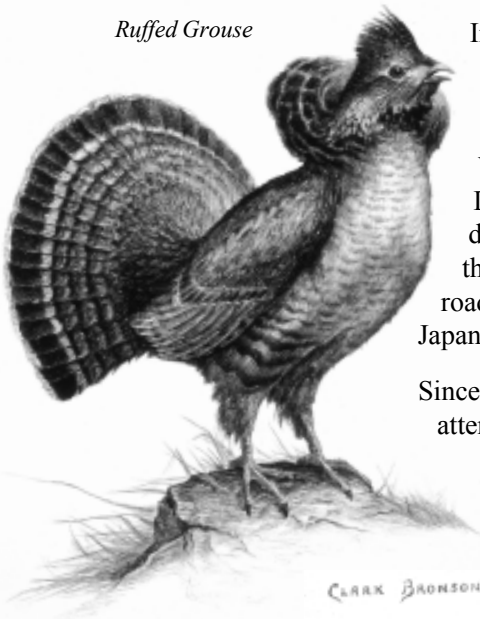
To obtain a set of the newly revised activity guides, request an order form by calling (801) 538-4719 or e-mailing dvos@state.ut.us. The cost for a set of both the K-12 and the Aquatic Education guides is \$17 plus \$3 for postage. Guides are available only to educators who can verify having completed a Project WILD workshop in the past.

Japan Goes WILD!

Japan has recently become the latest country to begin sponsoring Project > WILD within the international arena. Sponsorship of the program has been assumed by the Parks and Recreation Foundation of Japan.

As in other countries, Japan has been increasing their efforts in the realm of environmental education (EE) over the past decade. As part of investigating EE in the United States, in 1995, several education and environmental delegates from Japan visited Wisconsin to learn more about Project WILD and other EE programs. A relationship was established with the Wisconsin Project WILD Coordinator, Al Stenstrup. In 1998, Al and a colleague visited Japan to conduct a set of EE trainings hosted by the Ecosystem Conservation Society of Japan. The itinerary for their trip included a series of visits with several government officials associated with departments of environment and education in Japan. Interest in Project WILD was growing with many different groups in Japan.

Ruffed Grouse



In 1999, Japanese educators working with the National Project WILD office, translated both the Project WILD and Aquatic WILD guides. The guides were ready for use in September. At this time, Al Stenstrup and Donna Asbury, the National Director of Project WILD, traveled to Japan to conduct two Project WILD facilitator trainings. Forty-five Japanese educators became facilitators. During the workshops, it was easy for Al and Donna to see some interesting cultural differences reflected in some of the activities that were done. For example, during the activity "Dragonfly Pond," the educators made tall buildings and elevated the roadway. They wanted to construct a subway too, and they terraced the rice field. In Japan they obviously think vertically whereas here, we often think to expand horizontally.

Since then, the program has taken off. By May 2000, 420 Japanese educators had attended Project WILD workshops, and an additional 44 educators became facilitators.

The goal of the Parks and Recreation Foundation is to train an additional 100 facilitators and 400 more educators by early 2001!

Project WILD



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Naturescaping Grants

*Win a \$300 student action
grant from Project WILD for
the 2000-2001 school year!*

What is a Naturescaping Grant?

It is money for students to conduct an action project to establish wildlife habitat on or near their school grounds. Providing habitat for wildlife is of increasing importance. Naturescaping projects allow students to take positive actions which will result in long-term benefits for wildlife.

Request an application and more details from Project WILD at (801) 538-4719. Complete and return application no later than **November 17, 2000.**